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Cicuta bulbifera, flanked by *Solidago patula* and *Lysimachia quadrifolia;*
see article reporting the *Cicuta* new to Missouri on p. 1. Illustration by Erin O'Connell.

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We are fortunate to feature on the cover of this issue another original watercolor created for the volume by Erin O'Connell of Washington University's Tyson Research Center. The Society deeply appreciates Erin's time, effort, and botanical/artistic talents in creating a compelling image that highlights one of the issue's articles.

Heartfelt thanks as always to Cindy Pessoni of The Nature Conservancy, who, as she has for every issue since volume 34, collaborated with editing and proofing, and led the formatting and design process — *Missouriensis* benefits tremendously from her attention to detail, dedication, and talents.

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Cicuta bulbifera (Apiaceae) new to Missouri and several notable range extensions at a private wetland in Clark County

STEVE BUBACK[1] AND REESE WORTHINGTON[2]

ABSTRACT. — *Cicuta bulbifera* (bulbet-bearing water hemlock), was located along the margins of a privately-owned glacial fen/marsh complex in Clark County, Missouri. This represents the first record for Missouri. This wetland complex hosts large populations of many state-rare, fen-dependent species, including significant range extensions for *Solidago patula* and *Lysimachia quadriflora.*

INTRODUCTION

Cicuta is a genus of four species known from North America and Asia. Historically, the sole species known from Missouri was the widespread and familiar *Cicuta maculata* L., common water hemlock. *Cicuta maculata* occurs in every state in the U.S., and extends from Canada to Mexico (McNeill 2024).

Cicuta maculata is ubiquitous in moist habitats in Missouri, ranging from banks of streams and rivers to moist spots of upland prairies (Yatskievych 2006). *Cicuta bulbifera* L., bulblet-bearing water hemlock, is known primarily from the northern United States, most commonly from northern Minnesota to Pennsylvania and Maine (McNeill 2024). *Cicuta bulbifera* has been documented in a few counties in southern Illinois (SERNAC 2025) and could potentially occur in southeast Missouri or other counties bordering the Mississippi River.

All members of *Cicuta* are considered highly toxic, due to the presence of cicutoxins and oenanthotoxin (Schep et al. 2009); this toxicity is mostly contained in the roots. Both species appear to be excellent host plants for the black swallowtail (*Papilio polyxenes*), as measured by relative growth rate (Finke & Scriber 1988).

DISCUSSION

On 20 July 2023, we discovered thousands of individuals of *Cicuta bulbifera* in a privately owned glacial fen/marsh complex in Clark County, in extreme northeastern Missouri. The Missouri site for *C. bulbifera* has long been of interest to botanists due to the presence of many species rare to the state, although the exact location is withheld due to its location on private property. The site consists of several groundwater seeps flowing out of a sand lens from the adjacent hillside. Most of the observed seeps were under an understory and dominated by watercress (*Nasturtium*

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officinale) until they reached the edge of the marsh, where tree canopy gave way to full sun (**Figure 1**). At this point, the sandy bottom seeps transitioned to deeper muck soil and the plant community shifted to heliophilic species typical of fens, such as *Carex comosa* (S2), *Epilobium leptophyllum* (S1), *Dryopteris cristata* (S1), *Scutellaria galericulata* (S1), *Liparis loeselii* (S2), *Lysimachia thyrsiflora* (S1), *Filipendula rubra* (S2), and *Campanula aparinoides* (S1) (all ranks MDC 2025). The preceding species should all be considered associates of *Cicuta bulbifera*.

Figure 1. Shaded spring run out of sandy hillside. *Cicuta bulbifera* occurred on the margins of this spring branch. (*Photo by Reese Worthington*)

Most of these species occurred on the fringes of the complex, presumably where groundwater influence is dominant. Further from the input points, the community shifted to a more typical marsh community. The open marsh was dominated by species such *Typha latifolia* and *Bulb Schoenus fluviatilis,* while *Eupatorium maculatum* var. *bruneri* was abundant and widely distributed across the marsh. These groundwater-fed, fen-like seeps located around the margins of a marsh are most similar to communities seen at Oumessourit Wetland at Van Meter State Park, and many of the above listed species occur at both locations.

The *Lysimachia, Campanula,* and *Eupatorium* were in bloom during our visit. We also noticed that the *Cicuta* throughout the area had narrow leaves with occasional toothing and seemed unfamiliar. Subsequent work on the blooming specimen (*Buback s.n. with R. Worthington*) supported an identification of *C. bulbifera,* and a visit by Worthington on 21 September 2023 resulted in a specimen with bulblets that confirmed the identification (*Worthington s.n.*). Specimens will be accessioned in the Missouri Natural Heritage Herbarium (MNHP) with duplicates sent to MO. Thousands of stems of *C. bulbifera* have been noted occurring in shallow water along the western edge of the area, growing in the fen communities where the seeps enter into the marsh and extending into the marsh habitat, but seemingly limited to areas with groundwater influence. The area occupied by *Cicuta bulbifera* is ca. 4 hectares.

Notable additions to the site flora list include *Carex lacustris* (S2); *Solidago patula*, which appears to be the northernmost collection of this species in Missouri; and *Lysimachia quadriflora,* presumed to be the first collection in Missouri north of the Missouri River (Yatskievych 2013).

Cicuta bulbifera is readily identifiable when the presence of bulblets can be confirmed in the leaf axils (**Figure 2**). The fruits are seldom fertile in this species, and the primary means of spread may be by bulblet (McNeill 2024). Other distinguishing characteristics include narrow, lanceolate leaflets, upper leaflets that are once-compound and the presence of toothing along the margins of the leaflets (McNeill 2024).

Figure 2. *Cicuta bulbifera* at the Clark County, Missouri site. **A.** July photograph showing inflorescence and upper leaves. **B.** September photograph showing bulblets. (*Photos by Steve Buback*)

Given the species range in counties adjacent to the Mississippi River in Illinois and Iowa, it is probable that this occurrence is native. If previous visits did not occur when bulblets are present, then it would be easy to overlook this species throughout the complex. The bulblets are likely spread easily and this population could also be recently introduced. Swink and Wilhelm provide a Coefficient of Conservatism (C value) of 8 for *C. bulbifera,* and list the habitat as "locally frequent in minerotrophic wetlands" (Swink & Wilhelm 1994). A similar C value is recommended for this species in Missouri, as this occurrence is associated with high-quality natural communities and no additional sites have been found despite a large population and searches in nearby habitat.

The discovery of more conspicuous species such as *Solidago patula* and *Lysimachia quadriflora* are more difficult to explain. These species may represent more recent introduction, and future survey work should be conducted to monitor other species that may be extending ranges. The glacial fen/marsh habitat on this private property represents a high-quality natural community in a landscape dominated by human disturbance, and further inventory work of flora and fauna is warranted.

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Farewell *Galium asprellum*

WILSON W. TRYON[1]

ABSTRACT. — *Galium asprellum* was reported in the 2013 Flora of Missouri, based on one specimen collected by Albert Chandler in 1953. That collection, along with at least three other Chandler specimens from the same collecting trip, are actually from northern Wisconsin. *Galium asprellum* Michx. should no longer be considered a member of the Missouri flora. Several other Chandler collections erroneously attributed to Missouri are also discussed.

INTRODUCTION AND DISCUSSION

In their treatment of Missouri Rubiaceae in Volume 3 of the Flora of Missouri, Yatskievych and Taylor (2013) reported *Galium asprellum* Michx. from DeKalb County in northwestern Missouri, stating that within Missouri it was "known thus far only from a single, historical specimen." The species had previously been suggested as a possible member of the Missouri flora by Gleason (1952), who described it as a species of "wet woods and thickets, Nf. to Minn. to N.C. and Mo., most abundant in the ne. part of the range." The DeKalb County record appears to be a southwestern range extension for the species, with the nearest locality ca. 160 km northeast in southeastern Iowa (Kartesz 2015).

Since 2013, sources compiling biogeographic information have used the Yatskievych and Taylor (2013) report to include Missouri in the range for *G. asprellum*. Plants of the World Online reports Missouri in the native range for *G. asprellum* (POWO 2025). Flora of the Southeastern United States also attributes this species to Missouri (Weakley et al. 2025). In another instance, the publication of this report is reflected in updates to the BONAP system between 2013 and 2014 (**Figure 1**).

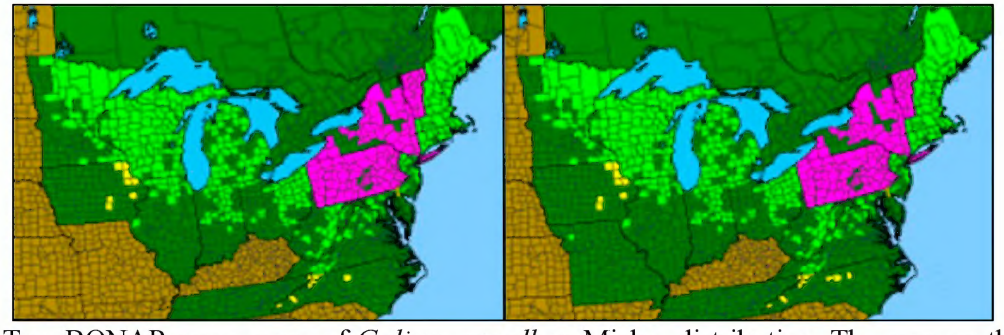

Figure 1. Two BONAP range maps of *Galium asprellum* Michx. distribution. The map on the left was generated 26 May 2013; the map on the right was generated 14 December 2014. Note the addition of a Missouri record in 2014.

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The historical specimen referenced by Yatskievych and Taylor (2013) is Albert Chandler s.n. (MO Accession: 2141985). Chandler collected the plant on 5 August 1953; it was initially labelled only as "*Galium.*" After subsequent determinations as both *Galium concinnum* Torr. & A. Gray by Charlotte Taylor in 1991, and *Galium triflorum* Michx. by Bill Summers in 1998, the sheet was determined as *G. asprellum* by Charlotte Taylor in 2002.

Chandler's label information is sparse (**Figure 2**) and has no information about the habitat or description of the plant, and only a one-word describer for the location: "Bayfield," all under a header of "Missouri." Bayfield, Missouri was a railroad community in southwestern DeKalb County. Its post office was open from 1886 to 1917. Given the time gap between the extinction of Bayfield, MO and the time of collection, this does not seem to be the Bayfield being referenced on Chandler's labels. It seems, instead, that the label header reading "Missouri" was an error. Note that the penciled in "DeKalb Co." is an annotation added after the fact by an unknown person.

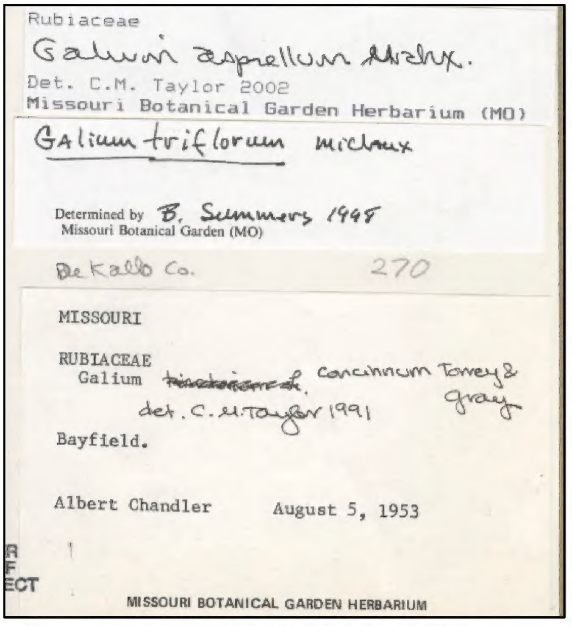

Figure 2. Label data for *Chandler s.n.* 5 August 1953 (MO 2141985).

As of 3 October 2025, there were 731 Albert Chandler specimens at MO with records available digitally on Tropicos (Teisher & Stimmel 2025). Of these, only four were collected in August of 1953, the last month represented in MO's Albert Chandler collections. Each of these four collections, including the *Galium asprellum*, are from Wisconsin but mounted with labels reading "Missouri." These collections, with their associated dates and locations are as follows:

Date	Determination	Locality	MO Accession
5 August 1953	*Galium asprellum* Michx.	Bayfield. **Missouri.**	2141985
6 August 1953	*Quercus rubra* L.	Madeline Island. **Missouri.**	2141988
7 August 1953	*Quercus rubra* L.	Madeline Island. **Missouri.**	2141987
8 August 1953	*Platanthera leucophaea* (Nutt.) Lindl.	.6 mile S of Sioux River bridge. 1½ mile S of Bayfield Park. **Missouri.**	2141989

The location information for the *Platanthera leucophaea* collection caught the eye of Bill Summers and George Yatskievych, who annotated the sheet in 1990 with the following: "Not from Missouri! This locality is near Bayfield, Wisconsin, ca. 50 min E of Duluth, Minnesota/Superior Wisconsin. Bayfield County?" The same locality comments apply to the other three sheets collected around that time, including the specimen forming the basis of the Flora of Missouri attribution of *Galium asprellum*. Madeline Island is a large island in Lake Superior just off the coast of northern Wisconsin near Bayfield. Evidently this is the same Bayfield referenced by Chandler in his collections from 5 August 1953 and 8 August 1953.

Because of this misreport of *G. asprellum*, there is reason to question Chandler's other collections attributed to Missouri. However, of the ca. 160,000 sheets annotated on Tropicos with the "MO" keyword for the Flora of Missouri, only 271 were collected by Chandler from 1936-1951 (Teisher & Stimmel 2025). The four collections mentioned above were collected in 1953, two years after Chandler's other Missouri collections. Moreover, if any of these collections represented similarly rare species, they likely would have been imaged for the physical Flora of Missouri reference collection at MO.

The Missouri Botanical Garden's current project to digitize the entirety of the MO collection will likely lead to the discovery of more errors in this same vein. I would expect that the as yet unlocated MO sheet with accession number 2141986 is almost certainly a member of this group of Albert Chandler collections from Wisconsin with a Missouri label. It is probably sitting in a Missouri folder somewhere in the herbarium along with all the other errata that makes this work so interesting, and reinforces the critical importance of well-documented voucher specimens as the basis for understanding our flora.

After I completed this manuscript, I learned that Justin Thomas independently discovered the erroneous report of *Galium asprellum* in Missouri, which he shared with Missouri Department of Conservation staff, leading to its removal as a state species of conservation concern.

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Two new Missouri bryophytes including a disjunct population for *Leptodontium flexifolium* into the Interior Highlands

LORIE A. HETRICK-VOLENBERG[1]

ABSTRACT. — Two bryophytes, the moss *Leptodontium flexifolium* and the liverwort *Blasia pusilla*, are reported new for Missouri, with descriptions and synopses of ecology and distribution. In the United States, *L. flexifolium* is distributed otherwise in the southern Appalachian Mountains and a few southwestern states. *Blasia pusilla* is more widespread in North America, occurring in the Pacific Northwest, isolated pockets of the Rocky Mountains, and in states north and east of Missouri, and therefore is not unexpected in Missouri.

INTRODUCTION

On a June 2024 field trip, lunch was held at Missouri University of Science and Technology's Ozark Region Field Station near Newburg, Missouri, in the Ozark region of the Interior Highlands. Among the several buildings at the field station is an old cabin homestead roofed with cedar shake shingles that have accumulated numerous bryophytes. Investigation of these bryophytes revealed a disjunct location of *Leptodontium flexifolium*. The addition of *L. flexifolium* to the Missouri moss flora brings the total number of mosses documented from the state to 330 (see Atwood 2025). A December 2024 trip to Rocky Hollow Natural Area in Monroe County led to the discovery of a new state record for *Blasia pusilla*. This brings the total number of Missouri liverworts to 121 taxa (see Atwood & Brinda 2021, Atwood 2014).

DISCUSSION

Leptodontium flexifolium (Dick) Hampe ex Lindberg

In the contiguous United States, *L. flexifolium* (**Figure 1**) occurs primarily above ~2000 m (6,500 ft) elevation in mountainous regions of Arizona, Mexico, and Texas, and above ~1370 m (4,500 ft) in the temperate Southern Appalachian Mountains of North Carolina and Virginia (Consortium of Bryophyte Herbaria 2025, **Figure 2**). It is a substrate generalist occurring on soil, rock, and trees, particularly decorticate wood. The Missouri population is a range extension of ca. 850 km (528 miles) from the nearest known population, in western Virginia.

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Figure 1. *Leptodontium flexifolium* from *Volenberg s.n.* (MO 7048480), Phelps County, Missouri. *(Photo by the author)*

Figure 2. Vouchered specimen locations for *Leptodontium flexifolium* in the U.S. (coordinates generated from the Consortium of Bryophyte Herbaria 2025).

This yellowish to brownish-green, tuft forming moss has slightly tomentose stems reaching around 1 cm in height. The leaves are oblong-lanceolate, contorted when dry, and wide-spreading when wet; this is a common habit in the Pottiaceae. The distal halves of the leaves have coarsely serrate margins terminating in broadly acute tips. Plants are dioicous and sporophytes are unknown in North America. However, numerous brown, ellipsoidal gemmae are commonly found in the leaf axils (**Figure 3**). *Zygodon apiculatus* Redf. is similar in habit, often having denticulate leaf ends and lacking sporophytes, but it is much smaller (1–4 mm high), strictly corticolous, has appressed leaves when dry, and has a darker green color.

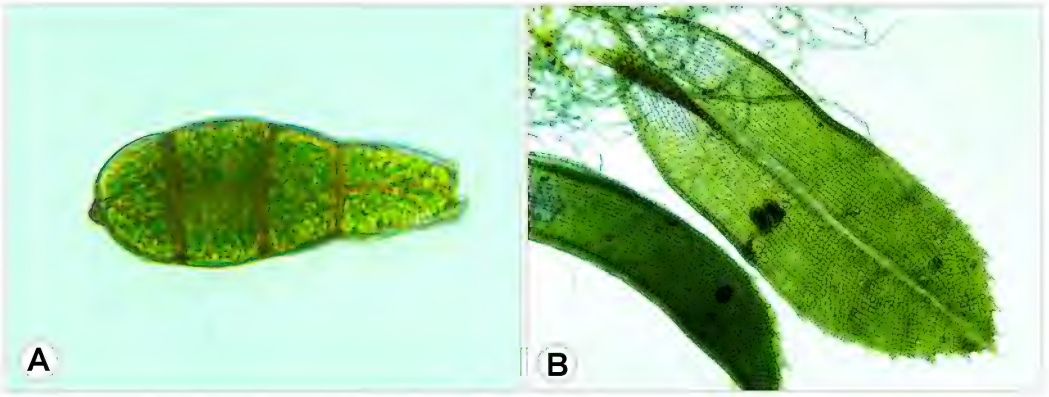

Figure 3. *Leptodontium flexifolium* **A.** Gemma at 250X. **B.** Leaf at 100X, showing strong teeth at distal end which are visible with a hand lens. *(Photos by the author)*

How this population ended up in Missouri is subject to several hypotheses. Due to the disjunct location of the Missouri population and an uncharacteristically low elevation of only 243 m (800 ft), along with its occurrence on a building (**Figure 4**), one hypothesis is that this introduction was inadvertently spread by human means. The original European owner of the land the research station resides on was William Riley Yelton (U.S. Department of the Interior, n.d.), who moved to the nearby Mill Creek area in 1869 from Tennessee (Yelton Family Genealogy, n.d.). William's brother, Barnett Cash Wilson, moved to Mill Creek in 1871 from Watauga Falls, North Carolina (Yelton Family Genealogy, n.d.). Watauga Falls is only ~15 air miles from Grandfather Mountain which has an extant population of *L. flexifolium*. Barnett bought property just east of his brother William's homestead. (U.S. Department of the Interior, n.d.). It is plausible that diaspores found their way to the Mill Creek area of Newburg, Missouri.

Figure 4. Cedar shingle roof of cabin at the Ozark Region Field Station. *(Photo by the author)*

A second hypothesis is that the diaspores came in on the current cedar shake shingles that replaced the older cedar shake roof circa 1995. It was noted by the former caretaker that the new cedar shake shingles were chemically treated for fire resistance, and that the roof prior to replacement was also covered in moss (M. Dean, former caretaker of the home, personal communication, 17 June 2025). It is unknown if diaspores could survive such a chemical treatment, and unfortunately, there is no checklist of the moss taxa present on the old cedar shake roof. Decorticate wood is a known substrate for *L. flexifolium*. A roughly 20-meter circle surrounding the house was searched in June 2025 for populations on other substrates such as soil or rock, but none were located. There are currently several healthy populations scattered across the cedar shake roof. Associated mosses include *Hedwigia ciliata* (Hedw.) Boucher, *Polytrichum ohioense* Renauld & Cardot, *Platygyrium repens* (Brid.) Schimp, and *Entodon seductrix* (Hedw.) Müll. Hal.

A third hypothesis is that the diaspores arrived via a wind driven vicariant event. If this were the case, one would expect to find more locations of this species in Missouri and possibly surrounding states. Perhaps more locations will be found in the future.

> *Voucher specimen*: **U.S.A. MISSOURI**: PHELPS CO.: Ozark Region Field Station near Newburg, on south-facing slope of cedar roof shingles of old cabin, 37.8606871, -91.9421259, 29 June 2024, *Lorie Volenberg s.n.* (MO 7048480).

***Blasia pusilla* L.**

In North America, *Blasia pusilla* (**Figure 5**) occurs in the Pacific Northwest from Washington south to California, in the Rocky Mountains from Idaho to Colorado, and north and east of Missouri from Minnesota to South Carolina (**Figure 6**). *Blasia pusilla* prefers disturbed areas in cool-temperate to circumboreal regions (Schuster 1992). It typically occurs in barren or disturbed, neutral to slightly acidic sites on water-retaining soils such as clay or loam, decaying rocky substrates such as shale, and on rocks often subject to periods of inundation. Specimens of *B. pusilla* are known from several of Missouri's surrounding states including Iowa, Illinois, Kentucky, and Tennessee. Most of the specimens from Illinois were collected in moist, sandstone-based locations, thus raising the expectations of *B. pusilla* occurring in Missouri.

Figure 5. *Blasia pusilla* from *Volenberg s.n.* (MO 7095603), Monroe County, Missouri. *(Photo by the author)*

Figure 6. Vouchered specimen locations for *Blasia pusilla* in the U.S. (coordinates generated from the Consortium of Bryophyte Herbaria 2025).

This complex thalloid liverwort has a green to yellow-green, dichotomously branched thallus that is a bit ruffly near the edges. Dark spots at the bases of the thallus lobes contain communities of nitrogen-fixing cyanobacteria. It is not uncommon for the thallus of this species to deteriorate throughout the year before a flush of new growth the following spring, or to disappear, due to its predisposition for unstable and disturbed areas (Schuster 1992). It is, however, a master of reproduction. It has two forms of asexual propagation: stellate shaped gemmae produced from surface cells at the distal end of the thallus, and ovoid to ellipsoid shaped gemmae produced in flask-like structures (**Figure 7**). This dioicous liverwort can also reproduce sexually. When the

various forms of reproduction are present, there are no other liverworts with which this species may be confused. When lacking reproductive structures, the thallus may look like *Pellia epiphylla* (L.) which lacks cyanobacteria.

Figure 7. A. *B. pusilla* on a sandstone boulder in a seasonal creek. **B.** Stellate gemmae produced at apex of thallus, inset 250X of stellate gemma. **C.** Ovoid gemmae produced from flasks, inset 1000X ovoid gemma. *(Photos by the author)*

Voucher specimen: **U.S.A. MISSOURI**: MONROE CO.: Rocky Hollow Natural Area, on sandstone boulders in seasonal creek, 39.5011218, -92.1191325, 16 December 2024, *Lorie Volenberg s.n.* (MO 7095603).

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First report of *Solidago delicatula* (thin-leaved goldenrod) in Missouri

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ABSTRACT. — *Solidago delicatula* is reported new to Missouri from Barton County. Taxonomic background and local ecological notes are provided, as well as a discussion of distinctions from the similar *Solidago ulmifolia*.

INTRODUCTION AND DISCUSSION

Recognition of *Solidago delicatula* Small (thin-leaved goldenrod or smooth elm-leaved goldenrod as a distinct species from *S. ulmifolia* Muhl. ex Willd. was recently supported by Beck et al. (2021). *Solidago delicatula* has also been treated as *S. ulmifolia* var. *microphylla* A. Gray, but more recent authors support this taxon at the species level (Semple & Cook 2006). This species generally occupies a region similar in distribution to that described by Küchler (1985) as the Cross Timbers ecoregion, with additional occurrences in the southwest end of the Bluestem prairie/Oak-hickory mosaic and adjacent ecoregions (Kartesz 2015). In their treatment of North American *Solidago*, Semple and Cook (2006) described its habitat as "sandy and alluvial soils, dry open woods, banks of shaded creeks."

This species was predicted as possibly occurring in Missouri given relatively numerous occurrences in Kansas and Oklahoma counties adjacent to Missouri, and by the density of those proximal records (see Braun 2019). In October 2023, I found *S. delicatula* in Prairie State Park, Barton County, Missouri, ca. 1.8 miles east of the Kansas-Missouri border.

> *Voucher specimen*: **U.S.A. MISSOURI**: BARTON CO.: Prairie State Park, "Wild 40" (Sect. 17), prairie/woodland/thicket edge on rocky slope, associated with *Quercus marilandica*, *Rhus copallinum*, *Andropogon gerardii*, *Lonicera japonica*, 5 October 2023, *A.P. Braun 20231005.02, with D.F. Evilsizor & E.S. Bowyer* (MO).

At Prairie State Park this species appears to be most abundant near rocky, sandstone-dominated upland waterways at the prairie-woodland interface. The community appears to be a small, degraded Cross Timbers-like, dry to dry-mesic sandstone woodland, with species and geomorphology similar to the typical communities of those areas. At this site, *Quercus marilandica* and *Andropogon gerardii* are present, but the area is heavily overgrown with ruderal trees (e.g., *Prunus serotina*), clonal shrubs (e.g., *Rhus copallinum*), and exotic vines (e.g., *Lonicera japonica*). Also present nearby are species more indicative of open canopy settings, such as *Eryngium*

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yuccifolium and *Gentiana puberulenta*. The flora suggests a degraded dry/dry-mesic prairie/woodland edge community. Recent reintroduction of fire at this site appears to have increased the density of *S. delicatula* stems. At the collection site, 150-200 individuals were observed over an area of 0.5-1 hectares, most of which were in a late-flowering stage, though some plants remained vegetative. The species was later found in other nearby areas under somewhat different associations, but generally in areas with sandstone geology near upland waterways at the prairie-woodland edge. In an adjacent drainage, it was associated with *Quercus prinoides*, which also seems to share an affinity for prairie edges. This site was similarly dominated by ruderal trees, shrubs, and vines.

Solidago delicatula can be distinguished from the superficially similar *S. ulmifolia* by its glabrous or nearly glabrous leaf surfaces (**Figure 1**, adaxially hairy in *S. ulmifolia*) and somewhat less rigid, narrower leaves (**Figure 2.A**), but they share a similar gestalt of a goldenrod with the largest leaves at the base (**Figure 2.B**).

Freeman (2014) assigned a coefficient of conservatism of 4 to *S. delicatula* for Kansas. A similar ranking for Missouri seems appropriate given its apparent ability to persist in degraded remnants locally. Future searches for the species in Missouri should concentrate on dry, acidic (sandstone or possibly chert geologies), oak woodland-prairie edges in the southwestern portion of the state.

Figure 1. Adaxial leaf surface of *Solidago delicatula*, Barton County, Missouri. (*Photo by the author*)

Figure 2. *Solidago delicatula*, Barton County, Missouri. **A.** Mid-stem and basal leaves. **B.** Flowering stem. (*Photos by the author*)

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New records of *Iris orientalis* (Iridaceae) in eastern Missouri

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ABSTRACT. — *Iris orientalis* has been documented to occur outside of cultivation in Missouri since 1967. Here a new occurrence and the total observed occurrences are reported to collate the data on its adventive presence in the Missouri Flora.

INTRODUCTION & DISCUSSION

Iris orientalis Mill., native to Greece and Turkey (Mathew 1981, 1984), is widely cultivated for its yellow and white flowers which bloom later than those of other commonly cultivated bearded irises (Mathew 1981). It is a rhizomatous perennial that prefers saline soils (Khan et al. 2014); there are numerous cultivars (Austin 2005). In Missouri this species was first reported outside of cultivation in 1967 from a roadside in Platte County (Henderson 1980). It has since been documented from several western Missouri counties also by Henderson (see specimens below), and it apparently has persisted at the Platte County location (MDC 2025). Flora of North America reports it from California, Connecticut, and Missouri (Henderson 2002).

Public databases that support citizen science, like iNaturalist, are a source for new records of native and exotic species, and also new species discoveries. For exotic species that spread to new locations, these documentations of distributions may be particularly useful. Combined with herbarium specimens, they provide early detection of species that may become harmful invasive species. *Iris orientalis* is confirmed to occur outside of cultivation in additional parts of the state, based on several iNaturalist reports from counties in central Missouri, the Ozarks, and northeastern Missouri (see observations cited below).

While performing fieldwork north of Troy in Lincoln County, I encountered a large number of flowering stems of *Iris orientalis* in the median of Highway 61 (**Figure 1**). Plants occurred on the upper east bank of the median for approximately 80 meters and contained ca. 300 flowering stems that showed differences in intensity of the yellow on the falls between individual clumps, suggesting high seedling recruitment rather than asexual spread.

Iris orientalis has shown an increase in occurrences in Missouri. It was first reported in 1967 from a location that has persisted [although Yatskievych (1999) noted a date of 1980]. It has since been documented in seven additional Missouri counties, with over half of these being reported in the last six years. The increased number of occurrences of this species in widely disparate locations across the state shows that it has adaptive potential to different physiographic regions and is spreading into new sites. The Lincoln County site has a large number of fertile

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clumps and seed production appears to be extensive, with immature plants at the margins of the subpopulation. It is unclear from where these populations originated given the plant's uncommon presence in horticulture in the region (I have not seen *I. orientalis* for sale at St. Louis area nurseries in the past eight years). This report of the known occurrences, with a newly documented location, brings attention to the established presence of this exotic species in the state.

Figure 1. *Iris orientalis* population in Lincoln County, MO along Highway 61, flowering 23 May 2025. The yellow arrow indicates the northern edge of the population. (*Photo by the author*)

It is likely that this species will continue to increase in abundance. *Iris orientalis* is known for its preference or tolerance of saline soils (Mathew 1981, Khan et al. 2014) and all reported Missouri occurrences are on roadsides that are often treated with salt during winter. Vegetative long-distance spread is likely uncommon, but with its high fecundity, as observed at the Lincoln County location, spread by seed and mowing will likely lead to frequent, but local, spread at established locations. Steyermark (1963) reported the exotic *I. pseudacorus* from just two locations; now it occurs across Missouri in at least five counties (Yatskievych 1999). Both species are vigorous, with the potential to crowd out native species.

Voucher specimens: **U.S.A. MISSOURI**. CLINTON CO.: along U.S. 169, ca. 1 mi S of Grayson, roadside embankment, 8 June 2002, *N.C. Henderson 02-15* (MO, UMKC). LINCOLN CO.: along U.S. 61 north of Troy, about 300 flowering stems, 23 May 2025, *A. Floden s.n.* (MO). PETTIS CO.: about 3 mi W of La Monte along U.S. 50, in fencerow, 15 June 1996, *N.C. Henderson 96-356* (MO, UMKC). PLATTE CO.: along U.S. 71, about 8 mi N of Platte Woods, escaped from cultivation but well established in roadside clumps, 7 June 1967, *N.C. Henderson 67-687* (MO, UMO).

Additional Missouri observations:
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https://www.inaturalist.org/observations/176595637 [Montgomery County, 2023]
https://www.inaturalist.org/observations/47654655 [Ralls County, 2020]
https://www.inaturalist.org/observations/118740796 [Taney County, 2022]

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More records of North American vascular plants from the Sperry Herbarium

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ABSTRACT. — *Heliotropium lasiocarpum* is reported new for Oklahoma; this is the second report from North America. Sixty-five additional new county records of vascular plants are reported from 26 counties in Kansas (7 taxa), Missouri (41 taxa) and Oklahoma (17 taxa). Some taxa are reported as new from multiple counties. Of the 65 total records, 40 are native and 25 are nonnative to North America. These records derive primarily from recent graduate projects, floristic studies, and class activities at Pittsburg State University from 2022–2024. We discuss the unexpected proliferation of county records regionally and the implications of this level of documentation.

INTRODUCTION

Important tasks in plant taxonomy include formal descriptions of new plant taxa, updating taxonomic knowledge with revisions and monographs, producing checklists and Floras, and inferring evolutionary relationships among taxa. An equally important but sometimes less acknowledged goal is documenting the geographical distributions of taxa with vouchered herbarium specimens.

Increasing evidence indicates that our knowledge of the distributions of vascular plants in North America remains far from complete at the county level. Over the past eleven field seasons (2014–2024), work at the Sperry Herbarium (KSP) at Pittsburg State University (PSU) has documented with voucher specimens over 700 new records of new vascular plants at the state or county level (Snow, in prep.). Although many records from KSP have been published (e.g., Snow 2017, Snow et al. 2017, Pryer et al. 2019, Hammesfahr et al. 2020, Daines et al. 2022), some were reported directly to the Biota of North America Program (Kartesz 2024) without formal publication.

These new records derive from several sources, including required plant collections from courses at PSU such as Taxonomy of Vascular Plants, Grass Taxonomy, and Wetland Plants; these specimens are typically within a 300 km radius of Pittsburg, Kansas. Others came from a master's thesis (Styers 2022) and an ongoing floristic survey of Bates County, Missouri. The remaining records are from opportunistic collections of the first author or from existing herbarium specimens at KSP that, upon digitization, appeared to be new records. Most of the records reported below were collected between 2022 and 2024.

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METHODS

Plants were collected following standard fieldwork practices for temperate climates, wherein specimens are pressed immediately in the field in presses with cardboard ventilators and later dried over artificial heat, typically for three to five days.

To the best of our knowledge, each record represents the first vouchered occurrence for the indicated county or state based on SEINet (2025) and BONAP (Kartesz 2024) through 1 April 2025. *Heliotropium lasiocarpum* is new to Oklahoma; all other reports represent county records.

Sources used to identify the taxa reported relied primarily on Yatskievych (1999, 2006, 2013) but also included Haddock et al. (2015), Stubbendieck et al. (2017), Brummitt (1972) and the treatment of Cyperaceae (by various authors) in *Flora of North America* (Volume 26). Common names mostly reflect those found in the volumes of Yatskievych for Missouri, Stubbendieck et al. (2017) for Poaceae, and BONAP (Kartesz 2024). Authors were responsible for identifying specimens collected under their names and confirming data in DarwinCore spreadsheets (Wieczorek et al. 2012); the lead author later confirmed each determination. All digital data associated with the reported specimens are available from the Consortium of Northern Great Plains Herbaria via SEINet (2025). Given the pending release of an updated online version of BONAP (J. Kartesz, pers. comm., Dec. 2024), these records (taxa + collector names + numbers + KSP barcodes) also have been submitted to that source. All specimens are housed in the T.M. Sperry Herbarium (KSP) at Pittsburg State University. A few have duplicates to be distributed.

RESULTS

In the following treatment, new records are listed alphabetically by taxon.

Ammannia robusta Heer & Regel (Lythraceae). Grand redstem. This native obligate wetland species is reported here for the first time from northeastern Oklahoma. It occurs elsewhere in 17 Oklahoma counties, and its broader range includes British Columbia and Ontario in Canada, interruptedly south to California, Texas, Louisiana, and east to Ohio, Kentucky and Tennessee (Kartesz 2024).

> *Voucher specimens*: **U.S.A. MISSOURI**: CLAY CO.: Watkins Woolen Mill State Park, 39.400653, -94.261073, muddy clay area near lake edge, very abundant, 19 October 2024 (fr), *A. Fulkerson 86* (KSP049008). **OKLAHOMA**: OSAGE CO.: Hulah Lake, 36.92822, -96.089839, sandy and rocky receding shoreline, 21 September 2024 (fr), *G. Gibbs 34* (KSP047225). WASHINGTON CO.: Washington Cove of Copan Lake, 36.912295, -95.943798, receding shoreline of Copan Lake, sandy soil, 21 September 2024 (fl, fr), *G. McClain 43* (KSP049368).

Andropogon virginicus L. Broom-sedge. This native species is widespread in the eastern United States.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.075738, -94.613737, open grassy area amidst deciduous forest, occasional, 5 November 2023, *N. Snow 12108 & R. Mason* (KSP046689).

Arenaria serpyllifolia L. (Caryophyllaceae). Large thyme-leaf sandwort. This widespread nonnative species occurs across most of the U.S. and occupies most counties in Missouri and adjacent states.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0727004, -94.4297651, minimally disturbed meadow by gravel path, common, 30 May 2024, *R. Mason 146 & N. Snow* (KSP050146).

Bouteloua dactyloides (Nutt.) J.T. Columbus (Poaceae). Buffalograss. This is the first report of this widespread native species for Bates County, and it is somewhat east of its main geographical range in the Great Plains. The population was found in a low-lying area with numerous, robustly growing plants with female inflorescences. The landowner (W. Bradley, pers. comm. to N. Snow, 2024) believed that part of the property was never tilled.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, State Line Road, 38.085842, -94.612708, minimally disturbed, sometimes flooded, low-lying meadow with areas of open soil, common in one small area, 13 May 2024 (fr), *R. Mason 92 & N. Snow* (KSP050092).

Bouteloua hirsuta Lag. subsp. ***hirsuta*** (Poaceae). Hairy grama. The range of this native subspecies is mostly to the west and southwest. This is the first report for Lawrence County, Missouri, representing a range extension ca. 90 miles east from its nearest occurrence in Labette County, Kansas. The nearest Missouri collections are from Jackson County to the north, and Iron County to the east. It is listed as a Species of Conservation Concern (S2) in Missouri. This record may represent a naturalized occurrence from previous plantings, and may have originated from a seed contaminant in grass seed mixes.

Voucher specimen: **U.S.A. MISSOURI**: LAWRENCE CO.: Private property 7.26 km directly south of U.S. Hwy 174, 1.33 km East of K Hwy, 37.053114, -93.701591, in bottomland of disturbed prairie lowland, rare for this area, 5 October 2024 (fr), *G. Singer 6* (KSP047230).

Carduus nutans L. (Asteraceae). Musk thistle / Nodding plumeless thistle. Apart from Maine and Florida, this often aggressively invasive nonnative species is in all the contiguous states, where it often is declared noxious (e.g., in AR, KS, MO, and OK). It is known from most adjacent and nearby counties in Missouri and Kansas.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0734291, -94.4345963, common along disturbed grassy walking path, 30 May 2024, *R. Mason 126 & N. Snow* (KSP050126).

Carex granularis Muhl. ex Willd. (Cyperaceae). Limestone-meadow sedge. This native species occurs in all adjacent counties in Kansas and Missouri although it is considered rare in Kansas (Kartesz 2024).

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.075739, -94.613737, disturbed roadsides adjacent to entry gate, rare, 13 May 2024, *R. Mason 59* (KSP050059).

Carex microdonta Torr. & Hook. (Cyperaceae). Little-tooth sedge. Ranging from Arizona to Florida in the contiguous U.S., this native species occurs in seven other counties in Missouri, much of southeast Kansas, but becomes most widespread in central Oklahoma to the Hill Country and southeast Texas (Kartesz 2024).

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.075974, -94.613475, open grassy area amidst deciduous forest, 21 April 2024, *R. Mason 40 & N. Snow* (KSP050040).

Carex sartwellii Dewey (Cyperaceae). Sartwell's sedge. The range of this native species is mostly confined to the northern half of the contiguous U.S. states. In Missouri it occurs in Jackson County to the north and three other counties on or near the Iowa border.

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.085344, -94.611299, disturbed meadow on ridgeline in area of gravelly overburden and road track, common, 13 May 2024, *R. Mason 100 & N. Snow* (KSP050100).

Cerastium brachypetalum Desportes ex Pers. (Caryophyllaceae). Gray mouse-ear chickweed. In the U.S. this nonnative species has a sporadic distribution mostly in the southeast and is known from adjacent counties in Kansas and Missouri (Kartesz 2024).

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.082267, -94.608043, 21 April 2024, *R. Mason 32 & N. Snow* (KSP050032).

Croton glandulosus L. var. ***septentrionalis*** Muell.-Arg. (Euphorbiaceae). Vente conmigo / Tooth-leaved croton. This native variety occurs in all adjacent counties except Miami County, Kansas (Kartesz 2024).

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.072094, -94.4322934, edge of forest in grassy clearing, occasional, 11 July 2024, *R. Mason 179* (KSP050179).

Cyperus subsquarrosus (Muhl.) Bauter. (Cyperaceae). Small-flower halfchaff sedge. This native species, until recently included under *Lipocarpha micrantha* (Vahl) G.C. Tucker (Yatskievych 1999), is irregularly and not densely scattered mostly in the eastern half of the U.S., with some occurrences as far west as California and Oregon. In Missouri it is known nearby in Vernon and Bates counties.

Voucher specimen: **U.S.A. KANSAS**: BOURBON CO.: Elm Creek Lake, ca. 15 km SW of Fort Scott, 37.754427, -94.85421, occasional in wet soil, 7 October 2023, *N. Snow 12102* (KSP046681).

Daucus pusillus Michx. (Apiaceae). Small wild carrot / American wild carrot. This native species occurs elsewhere in Kansas, to the west in Labette, Montgomery, Wilson, Chautauqua, Cowley counties and Leavenworth County to the north. It is more common in many counties of southwestern Missouri and areas south, east and west (Kartesz 2024).

Voucher specimen: **U.S.A. KANSAS**: CRAWFORD CO.: Crawford County Lake State Park, 37.64263, -94.81294, 14 Nov 2024 (fl, fr), *J. Haworth 34* (KSP049361).

Dinebra panicea (Retz.) P.M. Peterson & N. Snow subsp. ***mucronata*** (Michx.) P.M. Peterson & N. Snow (Poaceae). Needle viper-grass / Red sprangletop. This native subspecies occurs from western New Mexico to the Ohio River region (Ohio and Kentucky), but is most common in the lower Mississippi and Missouri River drainages from Kansas and Missouri south to Louisiana and Texas (Snow 2003, Kartesz 2024), ranging south into Argentina (Snow 2012). It occurs in several adjacent counties in Oklahoma (e.g., Osage, Nowata and Rogers) and Kansas (Chautauqua and Montgomery).

Voucher specimen: **U.S.A. OKLAHOMA**: WASHINGTON CO.: Washington Cove of Copan Lake, 36.912295, -95.943798, sandy soil of receding shoreline, 21 September 2024 (fl, fr), *G. McClain 40* (KSP047221).

Dinebra panicoides (J. Presl) P.M. Peterson & N. Snow (Poaceae). Amazon viper grass / Amazon sprangletop (Snow 2003). The range of this native species in the U.S. includes Texas and Oklahoma to Illinois, Virginia, and Georgia (Kartesz 2024). This report is the farthest west in Oklahoma, where it otherwise is known only from Ottawa, LeFlore and McCurtain counties.

Voucher specimen: **U.S.A. OKLAHOMA**: WASHINGTON CO.: Washington Cove on Copan Lake, 36.911033, -95.94229, common on sandy lakeshore, 17 September 2023 (fl), *N. Snow 12096 et al.* (KSP046676).

Diodia virginiana L. (Rubiaceae). Virginia buttonweed. The first report in Washington County for this native species; the nearest collections in Oklahoma are west in Osage and Pawnee counties, and east in Craig and Ottawa counties (Kartesz 2024).

Voucher specimen: **U.S.A. OKLAHOMA**: WASHINGTON CO.: Washington Cove of Copan Lake, 36.912295, -95.943798, sandy soil of receding shoreline, 21 September 2024 (fl, fr), *G. McClain 46* (KSP049366).

Elaeagnus umbellata Thunb. (Elaeagnaceae). Autumn olive. The first report of this nonnative woody species for Bates County, which collectively with other counties, documents the species' northward and westward expansion (Kartesz 2024). Advocates of wildlife often promoted its planting for cover and forage.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.072094, -94.4322934, disturbed grassy meadow on forest edge, 8 August 2024 (fr), *R. Mason 210* (KSP050210).

Echinochloa crus-galli (L.) P. Beauv. (Poaceae). Barnyard grass. The first report of this extremely widespread and weedy nonnative species that prefers seasonally and disturbed saturated soils. Although occurring in all fifty U.S. states and most of Canada, it surprisingly has not been vouchered yet (Kartesz 2024) for several nearby counties in Kansas (Bourbon, Linn) and Missouri (Henry, St. Clair). It is easily confused with the native species *Echinochloa muricata* (Stubbendieck et al. 2017) due to subtle differences in the spikelet morphology, so county distributions might be considered tentative until vouchers are confirmed.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0731024, -94.4313583, uncommon on gravel pond shore, 8 August 2024, *R. Mason 233* (KSP050233).

Elephantopus carolinianus Raeusch. (Asteraceae). Carolina elephant's-foot. This record helps fill in the documented occurrences for this native species along the western-tier counties of Missouri. It is relatively widespread from eastern Texas to Illinois, Pennsylvania, and Florida.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0720515, -94.4315653, disturbed grassy meadow on forest edge, 24 August 2024 (fl), *R. Mason 286* (KSP050286).

Eleusine indica (L.) Gaertn. (Poaceae). Goose grass / Indian goose-grass. This is the report of this widespread, nonnative species for Bates County. As a C4 grass, the North American distribution of this nonnative grass is more pronounced in the southern half of the U.S. It occurs in all surrounding counties except St. Clair County.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.072094, -94.4322934, forest edge in grassy clearing 11 July 2024 (fr) *R. Mason 182* (KSP050182).

Elymus villosus Muhl. ex Willd. (Poaceae). Hairy wild-rye / Downy wild-rye. This native species occurs in many counties in eastern Kansas, most of Missouri, and areas mostly northward and eastward.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.075738, -94.613737, open grassy area amidst deciduous forest, common, 5 November 2023, *N. Snow 12106 & R. Mason* (KSP046687).

Euonymus alatus (Thunb.) Sieb. (Celastraceae). Burning bush / Winged spindle-tree. This nonnative species is known nearby in Jasper (to the west) and Barry (to the south) counties, and several more counties mostly west, south and east within an approximately 100 km radius.

Voucher specimen: **U.S.A. MISSOURI**: LAWRENCE CO.: Private property 0.99 km east of K Hwy, 7.21 km south of U.S. Hwy 174 in Orange, 37.047304,

-93.703245, disturbed oak savanna on hill, 19 October 2024 (fr), *G. Singer 20* (KSP047227).

Euphorbia prostrata Aiton. (Euphorbiaceae). Ground-fig spurge / Prostrate sand-mat. This record represents an eastern extension from Kansas where this native species is more common (Kartesz 2024), although it also occurs interruptedly to Massachusetts and Florida.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.073325, -94.431254, occasional on gavel shore of pond next to parking lot, 24 August 2024, *R. Mason 274* (KSP050274).

Euploca convolvulacea Nutt. var. ***convolvulacea*** (Heliotropaceae). Seaside heliotrope. The first report for this native variety for Osage County; known from about 26 other counties in Oklahoma, mostly from the southern tier and western half of the state, with the nearest occurrence in Payne County, Oklahoma. The broader distribution of this native variety is mostly the southern tier states of the U.S. into the southern Great Plains, occurring as far north as Lancaster County, Nebraska.

Voucher specimen: **U.S.A. OKLAHOMA**: OSAGE CO.: Hulah Lake, vicinity of Skull Creek North Campground, 36.965046, -96.098154, sandy lakeshore, 29 September 2024 (fl), *C. Helman* 26 (KSP049360).

Fimbristylis autumnalis (L.) Roemer & J.A. Schultes (Cyperaceae). Slender fimbry. This native species occurs across most of the eastern U.S. and Canada with three outlying county occurrences in California (Kartesz 2024). In Oklahoma it is represented in over half of the eastern counties.

Voucher specimen: **U.S.A. OKLAHOMA**: WASHINGTON CO.: Washington Cove on Copan Lake, 36.911033, -95.94229, sandy lakeshore, 27 September 2024, *K. Stringer 36* (KSP046712).

Fimbristylis vahlii (Lam.) Link (Cyperaceae). Vahl's fimbry. Ranging from California sporadically to Nebraska, Illinois and Virginia and Florida, the native species' range is most densely occupied in the southern Great Plains, east Texas, and the lower Mississippi River basin (Kartesz 2024).

Voucher specimen: **U.S.A. OKLAHOMA**: WASHINGTON CO.: Washington Cove on Copan Lake, 36.911033, -95.94229; occasional on sandy lakeshore, 27 September 2024, *K. Stringer 35* (KSP046711).

Gossypium hirsutum L. (Malvaceae). Upland cotton. The nearest other vouchered specimen is from Jasper County, Missouri. The species is grown widely in the southern third of the U.S. where it only infrequently becomes adventive beyond its native range in the southern third of Florida. The specimen has a large boll (fruit) and was the only specimen seen.

Voucher specimen: **U.S.A. MISSOURI**: LAWRENCE CO.: Private Property along north side of Farm Road 2000, 1.15 km East of U.S. Hwy 39, 2.65 km south of U.S. Hwy 60, 36.925299, -93.706631, along county road within disturbed prairie, 19 October 2024 (fr), *G. Singer 17* (KSP047232).

Helianthus nuttallii Torr. & Gray subsp. ***rydbergii*** (Britt.) R.W. Long *vel aff.* Nuttall's sunflower. The identification here is tentative but based on several sources (Barkley 1986, Schilling 2006, SEINet 2025, Kartesz 2024). Hybridization and introgression are well known in sunflowers (Heiser 1969) and inevitably lead to some specimens that do not key easily or consistently using different keys, as was the case here. The specimen was collected from a population estimated at hundreds of stems from a rocky ledge (inaccurately indicated as "hill" on label). It keys imperfectly to the taxon indicated in *Flora of the Great Plains* (Barkley 1986) and *Flora of North America* (Schilling 2006). It differs from the description of the species in Schilling (2006) in having acute instead of 3-lobed chaff ("paleae") and lacking a pappus of 2 aristate scales. In other regards, however, the specimen compares well with four specimens of *H. nuttallii* in the Sperry Herbarium. Other comparisons were made with *H.* x *intermedius* R.W. Long, which is of hybrid origin (*H. maximiliani* Schrad x *grosseserratus* Martens) and according to BONAP (Kartesz 2024) is known from fewer than twenty counties from Kansas and Missouri to Maine. However, the specimen did not compare well to the one digitized image online (*B.F. Bush 7779a,* MO accession 809106). In addition, given over 30 digitized images (SEINet 2025) of the hybrid taxon *H.* x *kellermanii* Britt. (*H. grosseserratus* x *salicifolius* A. Dietr.), this possibility also was considered, but the leaf material is much narrower and longer on all those specimens compared to the one cited here. Leaf material is available upon request for DNA studies that might help better establish its identity or parentage.

> *Voucher specimens*: **U.S.A. KANSAS**: CRAWFORD CO.: Bone Creek Lake, 37.621669, -94. 745556, damp west-facing top of rocky hill next to muddy lake bank, 7 October 2023 (fl), *I. McMahon 9 et al.* (KSP046718 & KSP046719).

Heliotropium lasiocarpum Fisch. & C.A. Mey. L. (Heliotropiaceae). No evident common name yet for North America; suggestion based on its Latin binomial: Woolly-seed heliotrope. The native range of this nonnative, southern Eurasian species is from approximately Latitude 15–47°N and Longitude 25–115°E. Ours apparently is the second report of the species for North America and the first for the Great Plains and Oklahoma, the first being in 2005 from Maricopa County, Arizona (*J. Holt 54* [ASU, image number ASU0092250]). Our specimen keys easily in *Flora Europea* to the *H. europaeum* "group," the four species of which the author (Brummitt 1972) indicated were not well understood and may not all merit recognition. Given that our specimen has a conical, papillate stigma and a moderate to dense indumentum on the smooth (not rugose) fruits, it keys easily to *H. lasiocarpum* Fisch. & C.A. Mey. Much more common in North America, as presently understood, is *H. europaeum* L., which occurs in over 100 counties scattered across the eastern U.S. (especially the Coastal Plain and Piedmont).

> *Voucher specimen*: **U.S.A. OKLAHOMA**: OSAGE CO.: Hulah Lake, vicinity of Skull Creek North Campground, 36.965046, -96.098154, sandy shoreline, 29 September 2024 (fl, fr), *G. Gibbs 18* (KSP047226).

Hemerocallis fulva (L.) L. (Asphodelaceae). Orange day-lily. The first report for Bates County. This nonnative, widely planted, vegetatively spreading species is known also from most adjacent counties to the north, west and south, but less documented in some counties to the southeast in Missouri and is widespread particularly in the eastern U.S.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.4235, -94.26072, 13 June 2024, uncommon in grassy roadside ditch, *R. Mason 173* (KSP050173).

Hesperis matronalis L. (Brassicaceae). Dame's rocket. This nonnative species, planted frequently as an ornamental, has escaped widely across the U.S. and has been documented as adventive in most of the contiguous states (Kartesz 2024).

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.070847, -94.434825, disturbed grassland, common in scattered well-defined populations, 21 April 2024, *R. Mason & N. Snow 48* (KSP050048).

Ipomoea purpurea (L.) Roth (Convolvulaceae). Common morning-glory. This nonnative species is designated as a noxious weed in Oklahoma and some surrounding states (Kansas, Arkansas). Collections are known from Kay and Washington counties to the west and east (respectively), with many additional counties in Oklahoma mostly in the eastern third of the state (Kartesz 2024). Reported also is its first occurrence in Bates County, Missouri, where it also is known from most adjacent counties to the west in Kansas and Cass County, Missouri, to the north, but not vouchered for many nearby counties east in Missouri.

Voucher specimens: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.072094, -94.4322934, disturbed grassy meadow on forest edge, 8 August 2024 (fl), *R. Mason 203* (KSP050203). **OKLAHOMA**: OSAGE CO.: Hulah Lake, 36.92822, -96.089839, mixed sandy and rocky receding shoreline, 21 September 2024 (fl, fr), *G. McClain 50* (KSP049359).

Lactuca floridana (L.) Gaertn. (Asteraceae). Woodland lettuce. The first record of this native species for Bates County; known from most surrounding counties in Missouri and Kansas and widespread in the eastern U.S. and parts of Manitoba and Ontario, Canada.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0734451, -94.4321475, uncommon in disturbed ditch on edge of concrete parking lot, 11 July 2024, *R. Mason 183* (KSP050183).

Lonicera maackii (Rupr.) Maxim. Amur honeysuckle / Bush honeysuckle. This is an aggressively invasive and nonnative understory and ecotone shrub. Although it is known from the adjacent Vernon County to the south and approximately twelve other counties in the western half of Missouri, the species likely is more widespread in the general region than most county maps (e.g., Kartesz 2024) presently indicate. The private landowner was informed immediately of the small population of approximately ten plants.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.075738, -94.613737, at base of escarpment, slightly upslope of seasonally saturated area of *Typha*, 5 November 2023, *N. Snow 12124 & R. Mason* (KSP046705).

Lysimachia nummularia L. (Primulaceae). Moneywort / Creeping jenny. This nonnative species is widespread in the U.S. but with most occurrences east of approximately Longitude 100°W. In Kansas it occurs in Cherokee, Neosho, and Bourbon counties to the south, west, and north (respectively) and approximately seventeen other counties in northcentral and eastern Kansas (Kartesz 2024).

> *Voucher specimen*: **U.S.A. KANSAS**: CRAWFORD CO.: Mined Land Wildlife Area Unit #1, northeast corner of U.S. Hwy 160 and U.S. Hwy 69, 37.470045, -94.703048, in small seasonal pond, *A. Fulkerson 50* (KSP049009).

Myosotis macrosperma Engelm. (Boraginaceae). Large-seed forget-me-not / Big-seeded scorpiongrass. Confirmation of this native species as a first report for Cherokee County was made by Douglas Goldman (USDA, pers. comm. to NS, Jan. 2025). In Kansas it is known only from Crawford County to the north and in Missouri it occurs in two adjacent counties (Jasper and Barton). Its broader range is mostly to the east and south. This specimen was collected for a MS thesis that later was published (Pryer et al. 2019).

> *Voucher specimen*: **U.S.A. KANSAS**: CHEROKEE COUNTY.: On east side of NE 95th S ca. 85 m N of NE Bethlehem Rd., 37.19368, -94.65498, mixed deciduous forest and native tall grass prairie, 26 April 2014, *S. Pryer 143* (KSP049513).

Oenothera biennis L. (Onagraceae). Common evening primrose / King's cure-all. This native species is known from all adjacent counties in Missouri and widespread across the eastern half of the U.S. and Canada, with fewer occurrences west of the Great Plains.

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0727004, -94.4297651, uncommon on disturbed grassy slope next to rocky lakeshore, 8 August 2024, *R. Mason 239* (KSP050239).

Oxalis corniculata L. (Oxalidaceae). Creeping yellow wood-sorrel. Widespread across all states in the contiguous U.S., this nonnative species is scattered across approximately 25 counties in Missouri, most of which are in the eastern third of the state.

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, State Line Road, 38.082267, -94.608043, highly disturbed patchwork of secondary deciduous forest and grasslands, occasional, 21 April 2024, *R. Mason 33 & N. Snow* (KSP050033).

Papaver dubium L. (Papaveraceae). Blindeyes poppy. This nonnative ornamental species is known now in four counties in Kansas with widely scattered occurrences known from Missouri, Arkansas, Oklahoma, and about twenty other states. It was submitted to KSP by a local resident.

> *Voucher specimens*: **U.S.A. KANSAS**: BOURBON CO.: Just inside Bourbon County line, near intersection of 100th Street and Old Picher Pike / Railroad Street, 37.680257, -94.942675, on roadside, 6 June 2023 (fr), *G. Eitel s.n.* (KSP046666). **OKLAHOMA**: OTTAWA CO.: Lost Creek, along U.S. Highway 10, ca. 4.8 km NE of Wyandotte, 36.80294, -94.68878, locally common in grazed meadow/terrace above creek, 22 April 2023 (fl), *N. Snow 12082* (KSP046663).

Paspalum laeve Michx. (Poaceae). Field crown grass / Field paspalum / Round seed paspalum. This native species is common mostly to the east and south and known from most counties in the southern two-thirds of Missouri.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.075738, -94.613737, rare in open grassy area amidst deciduous forest, 5 November 2023, *N. Snow 12120 & R. Mason* (KSP046801).

Persicaria longiseta (Bruijn) Kitag. (Polygonaceae). Creeping smartweed. This nonnative species is widespread in the eastern half of the U.S., although relatively rare in western Missouri.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.073221, -94.431317, common on disturbed grassy slope next to rocky shoreline, 18 October 2024, *R. Mason 414* (KSP050414).

Phlox paniculata L. (Polemoniaceae). Perennial phlox / Fall phlox. This widespread native species occurs in several Kansas counties, and is more common south and east in and beyond Missouri.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0705577, -94.4351958, disturbed ditch along gravel road, 8 August 2024 (fl), *R. Mason 253* (KSP050253).

Phragmites australis (Cav.) Trin. ex Steud. (Poaceae). Common reed. Of the three congeners now recognized for North America, this one is nonnative and aggressively invasive in wetlands. It occurs across much of Canada and the 48 contiguous United States and is declared noxious in 15 of them. The specimen is sterile and less than 1 m tall but its strongly rhizomatous growth even in that early stage and other aspects of its morphology, coupled with its growth in a wetland situation, agree with species descriptions (e.g., lemma length and texture). The native *P. americanus* (Saltonst., P.M. Peterson & Soreng) A. Haines has a much less common distribution and SEINet indicates no occurrences for Oklahoma.

Voucher specimen: **U.S.A. OKLAHOMA**: WASHINGTON CO.: Washington Cove on Copan Lake, 36.911033, -95.94229, sandy lakeshore, only one plant seen, 27 September 2024, *N. Snow 12090* (KSP046670).

Pinus strobus L. (Pinaceae). Eastern white pine. The collector observed this native species in a wooded area where an intentional planting seems unlikely, which if true represents another westward locality beyond its presumed pre-European contact North American distribution (Kartesz 2024). This collection is the farthest westward occurrence in Missouri, with the nearest collections being in Benton County, Arkansas and Crawford County, Missouri. Its native range is mostly north and east of Missouri, and this record may represent a naturalized occurrence from previous plantings.

Voucher specimen: **U.S.A. MISSOURI**: LAWRENCE CO.: Private property 7.38 km south of U.S. Hwy 174, 1.19 km East of K Hwy in Orange, 37.047683, -93.704209, in woodland, 21 September 2024 (female cone), *G. Singer 13* (KSP047228).

Poa compressa L. (Poaceae). Flat-stem blue grass / Canada bluegrass. This nonnative species is widespread across the contiguous U.S. but is somewhat less common in the southeast (and as yet unknown for Florida [Kartesz 2024]).

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0727004, -94.4297651, common in grassy clearing at forest edge, 30 May 2024, *R. Mason 154 & N. Snow* (KSP050154).

Podophyllum peltatum L. (Berberidaceae). Mayapple. This native species was known in all surrounding counties in Kansas and Missouri when discovered for the first time in Bates County in 2024. It is widespread across the eastern U.S.

> *Voucher specimen*: **MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.072167, -94.430407, many stems in patch at edge of deciduous forest, 19 May 2024, *R. Mason 41 & N. Snow* (KSP050041).

Polypremum procumbens L. (Tetrachondraceae). Juniperleaf. In the U.S. this native species is widespread from the mid-Atlantic states through the Gulf Coast to the southern tip of Texas and most of the southeast. In Oklahoma it occurs in about two dozen counties mostly in the eastern half of the state, the nearest being Delaware County.

> *Voucher specimen*: **U.S.A. OKLAHOMA**: WASHINGTON CO.: Washington Cove on Copan Lake, 36.911033, -95.94229, sandy lakeshore, 27 September 2024. *K. Stringer 37* (KSP046713).

Populus deltoides Bartr. ex Marsh. subsp. ***monilifera*** (Salicaceae). Eastern cottonwood. One of the most widespread native tree species in the continental U.S. This subspecies is largely restricted to the upper and central Great Plains, and while it is common throughout Kansas, its representation in Missouri is sparser.

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.083484, -94.612146, occasional in disturbed meadows and adjacent gravelly roadsides near outbuildings, 13 May 2024, *R. Mason 84 & N. Snow* (KSP050084).

Potentilla rivalis Nutt. (Rosaceae). Brook cinquefoil. This native species previously was known from about fifteen counties in Missouri (Kartesz 2024) and is more common in states to the west.

> *Voucher specimen*: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.082267, -94.608043, highly disturbed patchwork of secondary deciduous forest and grasslands; only one plant seen, 21 April 2024 (fl), *R. Mason 27 & N. Snow* (KSP050027).

Prunus virginiana L. var. ***virginiana*** (Rosaceae). Choke-cherry. The typical variety of this widespread native species occurs mostly in the northern and central Great Plains and northern half of the eastern U.S., although it overlaps somewhat in the western part of its range with *P. virginiana* var. *demissa* (Nutt.) Torr. (Kartesz 2024). The typical variety occurs in other western tier counties in Missouri to the south and north of Bates County (Kartesz 2024).

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.082267, -94.608043, common in highly disturbed patchwork of secondary deciduous forest and grasslands, 21 April 2024 (fl), *R. Mason 21 & N. Snow* (KSP050021).

Quercus phellos L. (Fagaceae). Willow oak. Whereas this native species occurs in many counties in southeastern Missouri and across most of Arkansas (Kartesz 2024), this collection represents a northeastern extension from Delaware County, Oklahoma, and a northern extension from Washington County, Arkansas. Its occurrence at this site occasionally in the woodlands suggests a natural occurrence (G. Singer, pers. obsv.), and if so, then it is the westernmost station in Missouri. The specimens may represent a naturalized occurrence from previous plantings and, as noted by a reviewer, its relatively small acorns are readily moved by birds and mammals.

Voucher specimen: **U.S.A. MISSOURI**: LAWRENCE CO.: Private property 0.80 km north of U.S. Hwy 60, 0.23 km west of South Carnation Dr., 36.955334, -93.739387, drainage ditch leading into artificial pond and adjacent to disturbed prairie, 1 October 2024 (fr), *G. Singer 11* (KSP047229).

Ranunculus sardous Crantz (Ranunculaceae). Hairy buttercup. This nonnative species is more common south and east in North America (Kartesz 2024), but this location is the farthest north among the western-tier counties of Missouri.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Bradley Property, 9941 County Road 14367, 38.075739, -94.613737, infrequent on disturbed roadsides, 13 May 2024, *R. Mason 50 & N. Snow* (KSP050050).

Rorippa palustris (L.) Bess. subsp. ***palustris*** (Brassicaceae). Marsh yellowcress / Bog yellowcress. This native species is widespread across all North America including Greenland (Kartesz 2024).

Voucher specimen: **U.S.A. OKLAHOMA**: WASHINGTON CO.: Washington Cove on Copan Lake, 36.911033, -95.94229, sandy lakeshore, 27 September 2024 (fr), *N. Snow 12091* (KSP046671).

Sagittaria latifolia Willd. (Alismataceae). Duck-potato. This obligate native wetland species is common in Missouri, Kansas, and much of North America (Kartesz 2024).

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.073325, -94.431254, uncommon along gravel pond shore, 24 August 2024, *R. Mason 275* (KSP050275).

Sclerochloa dura (L.) Beauv. (Poaceae). Hardgrass / Common hardgrass. This nonnative cespitose (and typically prostrate) species now is widespread across much of North America, including British Columbia and Ontario, with at least thirty county occurrences combined in Kansas, Missouri, and Oklahoma (Kartesz 2024).

Voucher specimen: **U.S.A. OKLAHOMA**: OTTAWA CO.: Twin Bridges State Park, 36.798465, -94.753591, disturbed area of grassy parking lot, 22 April 2023. *N. Snow 12085* (KSP046660).

Sesbania herbacea (P. Mill.) McVaugh (Fabaceae). Peatree / Coffee weed. First report of this native species for Osage County. It has been documented in several counties nearby in Oklahoma (e.g., Washington, Nowata, Tulsa, Rogers) and Kansas (Labette, Montgomery, Wilson) and becomes much more common mostly south and east (Kartesz 2024). It is declared a noxious weed in Arkansas and Louisiana.

Voucher specimens: **U.S.A. OKLAHOMA**: OSAGE CO.: Hulah Lake, 36.92822, -96.089839, common along receding rocky and sandy shoreline, 21 September 2024 (fl, fr [imm.]), *S. Hulvey 28* (KSP049364). WASHINGTON CO.: Washington Cove on Copan Lake, 36.911033, -95.94229, sandy lakeshore, 27 September 2024. *K. Stringer 44* (KSP046714).

Stellaria pallida (Dumort.) Crép. (Caryophyllaceae). Sand chickweed. Some authors include this nonnative species within *S. media* (L.) Vill. Although *Stellaria pallida* is not vouchered for the county, *S. media* is (Kartesz 2024).

Voucher specimen: **U.S.A. OKLAHOMA**: WASHINGTON CO.: Washington Cove of Copan Lake, 36.912295, -95.943798, sandy soil of receding shoreline, 21 September 2024 (fr), *G. McClain 45* (KSP047222).

Strophostyles leiosperma (Torr. & A. Gray) Piper (Fabaceae). Slick-seed fuzzy-bean / Slick-seed wild bean. This native species is common in much of Missouri, Kansas and the central U.S. north to Ontario.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0734451, -94.4321475, disturbed ditch on edge of concrete parking lot, 8 August 2024 (fr), *R. Mason 217* (KSP050217).

Tripidium ravennae (L.) H. Scholz (Poaceae). Ravenna grass, native to western Asia and southern Europe (Webster 2003) and widely planted as an ornamental, is published here for the first time for 20 counties in Kansas (see **Figure 1** for eastern Kansas records; also new to Crawford and Geary counties). It was previously known from nine counties in eastern Kansas (Styers 2022). In North America its distribution ranges from Washington to Michigan and New York, south to California and Florida, although it is largely absent from the central Great Plains and central and northern Rocky Mountains (Kartesz 2024, GBIF 2025). Species distribution modeling using MaxEnt (Styers 2022) indicated that most of eastern Kansas represents suitable habitat for the species. *Tripidium ravennae* also occurs along roadsides in several western-tier counties of Missouri but frequently cannot be collected given its presence on the margins of interstate highways, where roadside parking is prohibited. Synonyms that have been used in North America include *Erianthus ravennae* (L.) Beauv., *Erianthus ravennae* var. *purpurascens* (Anderss.) Hack., *Ripidium ravennae* (L.) Trin., and *Saccharum ravennae* (L.) L. Approximately half of the vouchers indicated below are photo vouchers, all deposited in the Sperry Herbarium and each with separate labels and barcodes. Sedgwick and Wilson counties each had fifteen collections.

Voucher specimens: **U.S.A. KANSAS**: ALLEN CO.: Iola, along northbound side of Hwy 169, ca. 1450 m SW of NW Minnesota Rd Exit, 13 September 2022 (fl), *Styers 311* (KSP046554). BOURBON CO.: 2 km S of Prescott on northbound side

of Hwy 69, 28 August 2022 (fl), *Styers 294* (KSP046537), *Styers 296* (KSP046539), *Styers 297* (KSP046540). BUTLER CO.: El Dorado, SW of Hwy 254 and SW Boyer Rd. Intersection, on NE corner of protected wetland, 13 September 2022 (fl), *Styers 312* (KSP046555), *Styers 313* (KSP046556), *Styers 314* (KSP046557), *Styers 315* (KSP046558), *Styers 316* (KSP046559). CHAUTAUQUA CO.: Summit, 5 m N of westbound side of Hwy 166, ca. 1 km W of Rd. 14 intersection, 9 September 2022 (bud), *Styers 304* (KSP046547). CHEROKEE CO.: Skidmore, Adjacent to Hwy 7 on E side, 15 April 2022 (fl), *Styers 245* (KSP046489). CLOUD CO.: South of Concordia, ca. 20 m S of Hwy 81 and Airport Park Junction, 5 August 2022, *Styers 271* (KSP046514), *Styers 272* (KSP046515), *Styers 273* (KSP046516), *Styers 274* (KSP046517), *Styers 275* (KSP046518). CRAWFORD CO.: Baker, S of E 530th Ave, 0.25 mi E of S 180th St., 1 May 2022 (sterile), *Styers 247* (KSP046491), *Styers 243* (KSP046487), *Styers 246* (KSP046490), *Styers 320* (KSP046563), *Styers 321* (KSP046564), *Styers 322* (KSP046565), *Styers 323* (KSP046566), *Styers 324* (KSP046567), *Styers 325* (KSP046568), *Styers 326* (KSP046569). DICKINSON CO.: West of Abilene, ca. 12 m N of westbound Hwy 70, 450 m E of Flag Rd. overpass, 5 August 2022 (bud), *Styers 283* (KSP046526), *Styers 284* (KSP046527), *Styers 285* (KSP046528), *Styers 305* (KSP046548), *Styers 307* (KSP046550), *Styers 308* (KSP046551), *Styers 309* (KSP046552). FRANKLIN CO.: Hayes, adjacent to northbound exit to Stafford Rd., off Hwy 59, ca. 65 m NE of exit, 15 August 2022 (bud), *Styers 288* (KSP046531). GEARY CO.: Junction City, ca. 50 m W of S Spring Valley Rd. overpass on eastbound Hwy 70, 5 August 2022, (fl), *Styers 286* (KSP046529). GREENWOOD CO.: Salt Springs, adjacent to eastbound side of Hwy 400, ca. 265 m E of Aa Rd., 27 September 2022 (fl), *Styers 336* (KSP046579). JOHNSON CO.: Overland Park, within exit loop of 63rd St. exit onto Metcalf Ave., 3 September 2022 (fl), *Styers 301* (KSP046544). LABETTE CO.: Parsons, ca. 190 m E of Hwy 59 on S side of 22000 Rd., 7 August 2022 (fl), *Styers 279* (KSP046522), *Styers 280* (KSP046523), *Styers 281* (KSP046524), *Styers 282* (KSP046525). LINN CO.: Potosi, 4 mi N of Prescott on northbound side of Hwy 69, 28 August 2022 (bud), *Styers 295* (KSP046538), *Styers 298* (KSP046541), *Styers 303* (KSP046546). LYON CO.: Emporia, 5 m N of roadside on Hwy 35 southbound, ca. 760 m E of Rd. R1 overpass, 4 August 2022 (bud), *Styers 269* (KSP046512). MARSHALL CO.: Marysville, 4 m N of westbound edge of Hwy 36, 450 m W of 11th Rd., 5 August 2022 (bud), *Styers 270* (KSP046513). MORRIS CO.: Herrington, adjacent to northbound side of Hwy 77, ca. 200 m S of E Helen St., 10 September 2022 (fl), *Styers 306* (KSP046549), *Styers 310* (KSP046553). OSAGE CO.: Fairfax, adjacent to southbound side of Hwy 75, ca. 650 m S of W 197th St. and Hwy 75 intersection, 15 August 2022 (bud), *Styers 319* (KSP046562), *Snow 11561* (KSP046664). SALINE CO.: Salina, ca. 35 m S of E Iron Ave., W of Smoky Hill River Bridge, 5 August 2022 (fl), *Styers 276* (KSP046519), *Styers 277* (KSP046520), *Styers 278* (KSP046521). SEDGWICK CO.: Wichita, 4 m W of N Ridge Rd., off southbound edge, 1.1 mi S of Hwy 96 junction, 23 July 2022 (fl), *Styers 249* (KSP046493), *Styers 250* (KSP046494),

Styers 251 (KSP046495), *Styers 252* (KSP046496), *Styers 253* (KSP046497), *Styers 254* (KSP046498), *Styers 327* (KSP046570), *Styers 328* (KSP046571), *Styers 329* (KSP046572), *Styers 330* (KSP046573), *Styers 331* (KSP046574), *Styers 332* (KSP046575), S*tyers 333* (KSP046576), *Styers 334* (KSP046577), *Styers 335* (KSP046578). WILSON CO.: New Albany, adjacent to Hwy 400 on N side, 1 April 2022 (fl), *Styers 244* (KSP046488), *Styers 248* (KSP046492), *Styers 255* (KSP046499), *Styers 256* (KSP046500), *Styers 257* (KSP046501), *Styers 258* (KSP046502), *Styers 259* (KSP046503), *Styers 260* (KSP046504), *Styers 261* (KSP046505), *Styers 262* (KSP046506), *Styers 263* (KSP046507), *Styers 264* (KSP046508), *Styers 265* (KSP046509), *Styers 266* (KSP046510), *Styers 267* (KSP046511).

Typha latifolia L. (Typhaceae). Broad-leaf cat-tail. This native wetland species is common throughout most of North America (Kartesz 2024).

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.073325, -94.431254, uncommon on gravel shore of pond, 24 August 2024, *R. Mason 277* (KSP050277).

Vernonia missurica Raf. (Asteraceae). Missouri ironweed. This native species is more common in the eastern third and northern half of Missouri and occurs mostly west of the Mississippi and north of the Ohio rivers.

Voucher specimen: **U.S.A. MISSOURI**: BATES CO.: Harmony Mission Lake Conservation Area, 38.0739878, -94.4343894, highly disturbed grassy trail on edge of meadow, 8 August 2024 (fl), *R. Mason 225* (KSP050225).

Vicia sativa L. subsp. ***nigra*** (L.) Ehrh. (Fabaceae). Garden vetch. This nonnative species occurs most commonly in the eastern U.S., although it is known in all 48 contiguous states. It occurs in about half of the counties in Oklahoma.

Voucher specimen: **U.S.A. OKLAHOMA**: OTTAWA CO.: Lost Creek, along U.S. Hwy 10, ca. 4.8 km NE of Wyandotte, 36.80294, -94.68878, locally common in grazed meadow/terrace above creek, 22 April 2023, *N. Snow 12083* (KSP046662).

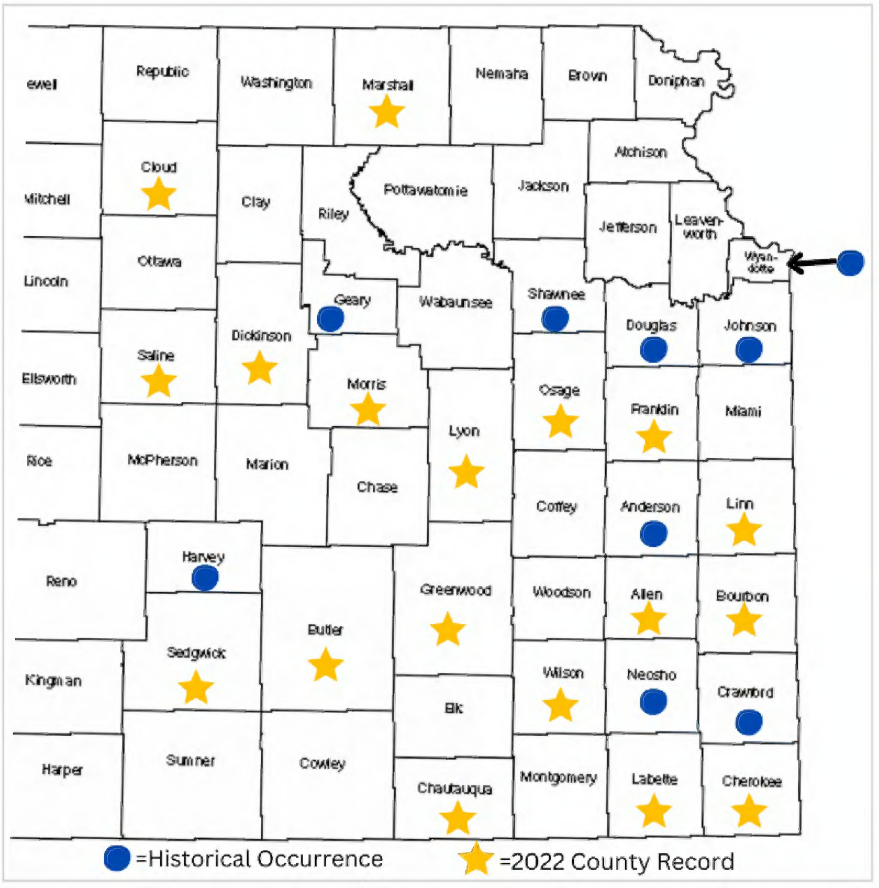

Figure 1. Distribution of *Tripidium ravennae* (L.) L. in eastern Kansas (from Styers 2022).

DISCUSSION

This paper summarizes recent collections or re-identifications of specimens occurring mostly within a 300 km radius of Pittsburg, Kansas. It includes one state record (*Heliotropium lasiocarpum*) from Oklahoma and 64 county records from Kansas, Missouri and Oklahoma. Given that first state or county occurrences sometimes are not traced easily in data aggregators such as SEINet (2025), print-based publications still represent an important source for reporting new records. Moreover, vouchered herbarium specimens likely will continue to be the preferred approach despite the advent of phone-based apps such as iNaturalist that capture digital images, especially given that digital sources frequently are unable to convincingly differentiate among taxa in species-rich genera (White et al. 2023, Eckert et al. 2024).

Previous publications of state records exclusively (Legler 2010) or state and county records together (Martine & Ward 2013, Snow et al. 2017, Pryer et al. 2019, Freeman & Morse 2019, Daines et al. 2022) have led to a growing realization that our knowledge of vascular plant distributions at the county level remains substantially incomplete. Such gaps in geographical

documentations are known as the Wallacean Shortfall (Brown & Lomolino 1998, Lomolino 2004, Snow et al. in press).

Whereas the primary focal level of new records previously was state records or significant range extensions (e.g., Daines & Snow 2024), digital tools such as SEINet and BONAP increasingly enable workers to determine quickly and with some degree of confidence whether a collection represents a first herbarium voucher for a state or county.

The plethora of records reported here and elsewhere is unsurprising in one sense, given that relatively few people track the distributions of plant species at the county level. Moreover, few outside of active and well-curated herbaria have the means to identify specimens of many taxa with a high degree of confidence, since well-curated comparative material is often critical for confirmation of identifications.

In contrast, it is surprising that so many county and state records are still being documented in areas such as Kansas, Missouri, and Oklahoma after (albeit sporadic) collecting for at least 140 years. This magnitude of county records may be underappreciated by many plant taxonomists and ecologists. As an example of an incompletely surveyed county, more specimens of vascular plants (ca. 415) were collected in Bates County, MO between November 2023 and April 2025 than from the 1970s through the 2010s (R. Mason & N. Snow, unpublished).

Another goal of plant taxonomy not mentioned in the Introduction is training the next generation of professionals in the proper techniques of field collecting and databasing. The first in-depth scientific exposure to plant diversity for most is through courses offered in colleges, universities, or workshops. Students collecting plants early in their careers, contributing to county and sometimes state records, and participating in the publication process provides critical experience and helps to instill the importance of local and current knowledge of plant distributions. Collections made by students from their counties of origin and on private properties will continue to be an important and ongoing source of novel plant distributions.

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